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Software allows user to uncover, tailor target image

by Fran Crumb, Information Directorate

ROME, N.Y. — A software "tool mm, kit" designed to assist intelligence analysts in tailoring advanced imagery to uncover specific targets is the goal of an Air Force Research Laboratory Information Directorate contract with PAR Government Systems Corp. of New Hartford.

Technology developed under the two-year, $653,000 program is expected to benefit both military intelligence analysts and a host of civilian agencies and researchers.

"Hyperspectral imagery uses multiple, narrow bands in the visible and infrared bands of the electromagnetic spectrum," said Frederick W. Rahrig, program manager in the directorate's Information and Intelligence Exploitation Division. "There are hundreds of these bands and, by selecting specific ones, you can distinguish between different types of features such as natural formations and man-made objects.

"A television display uses only three channels — red, green and blue — to produce its image," Rahrig said. "Today's advanced sensors collect hundreds of bands simultaneously, and the purpose of the PAR research will be to decide which bands to use and how to process them.

"Deciding which bands to use out of those hundreds is critical," he said. "All features give off a unique electromagnetic 'signature," which will allow us to tailor image processing for very specific purposes."

Using the projected technology, military analysts will be able to differentiate between natural growth and camouflage. Civilian applications include forestry, agriculture and infrastructure planning based on soil content. Law enforcement personnel may even be able to detect plots of illegal drugs from aerial imagery. **@**